

3. Grasp the abdominal wall with the hand and have the assistant do the same on the opposite side.

4. Pull the abdominal wall forward and with the other hand work the intestines up toward diaphragm.

5. Place the laparotomy sponges and pack them tightly toward diaphragm, placing one clamp on all the tapes attached to them and collected in one bundle.

6. Place the rubber dam around the abdominal speculum, and then insert the ring into the abdominal opening in such a way that the wall of the abdomen on one side only fits into the groove around the ring.

7. Now spread the rubber dam over the patient, and, while holding the ring in place with one hand, gradually, inch by inch, push the opposite abdominal wall outward over the edge of the ring, when it will immediately snap into the groove and remain there. The whole proceeding is similar to clinching on an automobile tire.

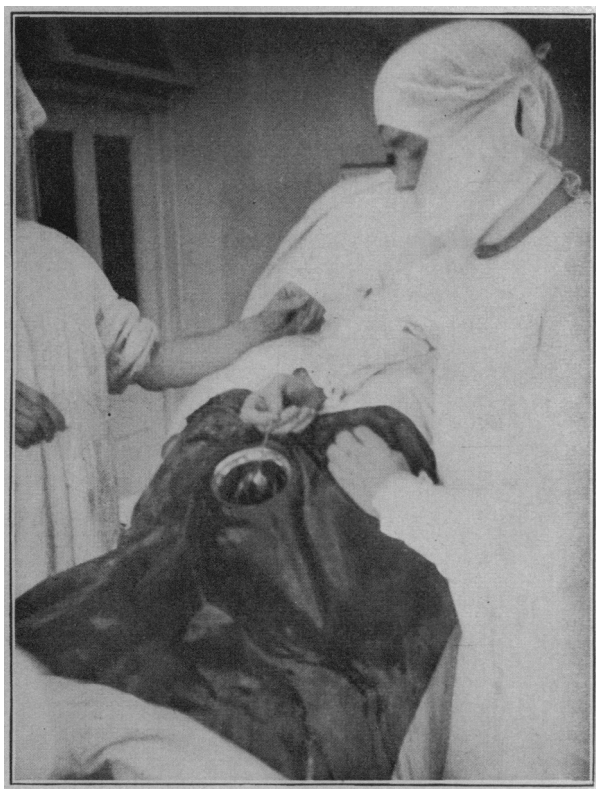


Fig. 2.—Ring speculum, rubber dam and retractor, in use.

The ring, once in place, is held there by the abdominal wall very firmly; in fact, it requires a particular maneuver to get it out.

Since it may, in the course of the necessary work on a given case, become desirable to get a little further to one side or the other, a hook is furnished with the rings, bent to fit exactly on the inner curve, by means of which retraction can be accomplished. Retraction in this way is superior to the older methods in that one is always retracting a perfect circle.

No claim is made for a universal application for this abdominal ring speculum, but it is of service in by far the greater number of abdominal cases. A little use will soon demonstrate its value to the operator, and he will quickly find out that it has a far greater use than would at first appear.

One of the first criticisms of the instrument that I have heard is that too large an incision has to be made.

Those who make this remark forget the natural resiliency of the tissues. The incision does not have to be any longer than the greatest diameter of the ring. About half an inch greater than the internal diameter of the ring is all that is required.

Another criticism is that it is undesirable to cut the patient to fit an instrument. This remark is made without due consideration, for it is to avoid this necessity that a series of six rings is made, with interior diameters, 4, 3½, 3, 2½, 2 and 1½ inches, thus affording a ring convenient for any incision.

I have used the abdominal ring speculum in fifteen cases, with not only satisfactory but brilliant results. I have not had a wound infection in any one of the cases.

This being only a preliminary report, no detailed account of cases will be given, but a later article will take up those details.

100 State Street.

DEVIATION OF COMPLEMENT WITH FAILURE OF COMPLETE HEMOLYSIS (WASSERMANN REACTION) IN CERTAIN, NON-SYPHILITIC, HUMAN SERA

A PRELIMINARY COMMUNICATION *

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The specificity of the so-called Wassermann reaction together with its clinical interpretation have been matters of comment and criticism since the introduction of the test. Granting that in all cases in which work has been reported, the technic and the component parts of the manipulations have been beyond question, it has been frequently noted that cases of undoubted syphilis, clinically, have failed to give positive reaction. Conversely, the literature already contains rather frequent mention of failure of hemolysis in instances in which leucic history has been eliminated and in which individuals have been ill from various other ailments.

Landsteiner¹ found that when rabbits had been inoculated with *Trypanosoma equiperdum* their serum caused inhibition of hemolysis. Weil and Braun² noted positive indications from the test in cases of pneumonia, typhoid fever, tuberculosis, diabetes and certain tumors variously distributed throughout the body. Munch and Eichelberg³ have called attention to the fact that serum from patients affected with scarlet fever behaved similarly. However, Ivy McKenzie⁴ notes no inhibition of hemolysis in nine cases of scarlet fever, four cases of lobar pneumonia, three cases of bronchopneumonia and six cases of typhoid. In six cases of tuberculosis hemolysis was complete, and in four out of five cases of chronic tuberculosis there was no inhibition. Butler⁵ obtained the reaction in three cases of noma, in which the etiologic factor appeared to be due to *B. fusiformis* and a spirillum. Gay and Fitzgerald⁶ report no positive reactions in patients affected with acute conditions such as typhoid fever, pneumonia, meningitis and tuberculosis.

In the course of our work with the Wassermann reaction, we have observed that blood serum of evidently

* From the Laboratory of the Pasteur Institute at the University of Michigan.

1. Referat am Internat. Kong. f. Hyg., 1907.

2. Wien. klin. Wchnschr., 1908, No. 26.

3. Med. Klinik., 1908, p. 671.

4. British Jour. Path. and Bact., January, 1909.

5. New York Med. Jour., Jan. 30, 1909.

6. Boston Med. and Surg. Jour., Feb. 11, 1909.

non-syphilitic patients, who are in progress of treatment for rabies or who have recently taken such treatment, by the Pasteur method, possessed certain properties which prevented or influenced the lysis of sheep's erythrocytes.

Details of cases, together with practical and theoretical considerations need not greatly concern us here. Suffice it to say that it would appear that the partial or total absence of hemolysis in these Pasteurized patients is explained by the fact that this class of patients in the course of the prophylactic treatment, receive rabbits' blood serum as an extrinsic substance. Consequently, from these injections, they become more or less perfectly sensitized to rabbit's serum.

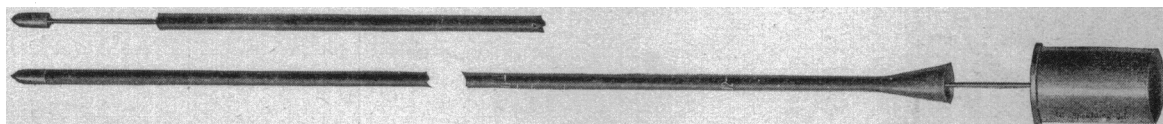
By the original procedure of the Wassermann reaction, the extrinsic components are obtained from the rabbit (amboceptor), the guinea-pig (complement) and sheep's blood (erythrocytes).

It apparently follows that if one uses the rabbit to obtain hemolytic serum (amboceptor) for the sheep's erythrocytes, this serum after inactivation, will give the precipitin reaction with the sensitized human serum of the Pasteurized patient and the complement (from guinea-pig). This precipitin reaction is due to the presence of amboceptor in the blood serum of the patient who has had the prophylactic injections of rabbit's serum according to the Pasteur method, and to the receptor in the inactivated rabbit's serum. This inactivated serum, in the presence of complement (guinea-pig's serum) and sensitized erythrocytes (sheep) gives rise to a deviation of complement. It

gland, sclerotic artery, phlebolith, calcified bodies in muscle or fascia, or accentuated calcification in the transverse processes of the vertebræ. It has been recognized that a simple *x*-ray picture is subject to these errors, at least, and to overcome this error it has been the custom of those expert in genitourinary surgery to pass styleted urethral catheters and to have the *x*-ray picture taken with the catheters in the ureters, by which means it has been possible to interpret shadows suggesting ureteral stones more accurately, as the course of the ureter is clearly defined by the shadow cast by the metal stylet, and a calculus in the ureter will be detected budding, as it were, from the stylet.

While this method of diagnosis is satisfactory, it is possible to employ it only when all the necessary apparatus is at hand.

To detect stones in the ureter without the *x*-ray, and to aid in their dislodgement, the instrument here illustrated is of value. It consists of a ureteral catheter with an opening at the tip through which a manganese stylet is passed. On the distal end of the stylet is soldered a silver conical-shaped tip, the proximal end of which is concave, and of the circumference of the ureteral catheter, so that it fits perfectly over the opening. On the proximal end of the stylet is soldered a metal cup which may be fitted into a stethoscope. By the passage of this catheter into a ureter containing a calculus an impulse is carried to the ear as the metal tip strikes the foreign body. The catheter being marked off in inches, it is known exactly what distance the stone is from the ureteral mouth.



The lower figure shows the ureteral catheter with the silver tip flush with the catheter end, and the metal cup at the proximal end of the stylet, which cup fits into the stethoscope.

The upper figure shows the silver tip advanced in position to be withdrawn after the catheter has passed a ureteral stone. It is hoped that the concave shelf at the base of the conical tip will engage the ureteral calculus enough to dislodge it, and allow it to pass on into the bladder after the catheter is removed.

thus follows that there is a fixation of complement in both the precipitin reaction present and in the process of hemolysis.

The consideration of the resulting partial or complete absence of hemolysis, together with a fuller explanation of the phenomena connected therewith, we shall endeavor to take up in a future communication.

URETERAL CATHETER FOR THE DETECTION AND DISLODGMET OF STONES

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Previous to the employment of the *x*-ray as a means of detection of calculi in the ureter, the error in diagnosis between stones in the kidney and ureter was great. The employment of the *x*-ray has been of the greatest value in the diagnosis. This method of diagnosis, however, contains a two-fold error: first, the impossibility of detecting pure uric acid calculi; and, second, the presence of questionable shadows in, or near by, the course of the ureter. It has been a common mistake to cut down on supposed ureteral calculi because of shadows present in *x*-ray plates, and to find no ureteral stone, the shadow being due to a faulty plate, calcified

The second object of this catheter is to aid in the dislodgment of the calculus if detected. It is well known that the ureteral catheter will usually pass any calculus in the ureter, and it has been observed many times that the stone is often dislodged following the removal of the ureter catheter. This is probably due to the fact that the stone is only lightly held in the ureter, and the dilation produced by the passage of the catheter by it may result in sufficient dilatation to allow the stone to pass on after the catheter is removed. This, however, does not always take place, and with the idea of increasing the possibility of dislodging the stone, the conical end of the stylet is advanced for about one inch, after the catheter has passed the stone, and then, the catheter being withdrawn, the shelf on the conical end may engage the stone and dislodge it.

829 Boylston Street.

Medical Inspection Prevents Caisson Disease.—The engineers who built the Cortlandt street tunnel below the Hudson river are justly proud, says the *Scientific American*, of the fact that the whole 5,900 feet of pneumatic work was driven through without the serious injury, through air pressure, of a single workman. The tunnel was built under air pressure of from 25 to 35 pounds to the square inch, and the enviable freedom of the workmen from attacks of the "bends" was due mainly to a searching medical examination of all candidates for the compressed-air work.